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Mario Rabinowitz

Amendment

In The United States Patent And Trademark Office

In re Pro Se application of: Mario Rabinowitz and Felipe G. Garcia
Serial No. : 10/770,087 Filed: Jan. 31, 2004
Title: Group Alignment Of Solar Concentrator Micro-Mirrors
Examiner: Tuyen Tra; Art. Unit: 2873; ph. 571, 272-2343

Honorable Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

April 1, 2005

Sir:

Applicant is responding to the Action by Examiner Tuyen Tra of Feb. 2, 2005, mailed Feb. 10, 2005.

I. General Remarks

Group Alignment is unique in our invention, and not at all anticipated by the Cited Art, nor the prior art of record. In the prior art spheres may be individually aligned to all have the same alignment as a group, they nevertheless are each aligned individually. This is not the same as the "group alignment" of the instant invention where a group of spheres are all aligned together collectively as a group to reduce the voltage requirement. Because the prior art performs the alignment on each individual sphere, there is no reduction of voltage requirement as we teach. An auxilliary benefit of voltage reduction, as we teach, is a reduction in power requirement. This is because power losses related to field emission, dielectric loss, etc. are reduced when the voltage is reduced.

Moreover, the prior art does not have micro-mirrors embedded in its spheres as in the instant invention. This further distinguishes our invention from the prior art.

II. Specific Responses to Points Raised in Office Action Mailed Feb. 10, 2005

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The subject numbers used here correspond to those of Examiner Tra's Action. I quote his relevant statements and give our replies.

1. "The declaration filed 01/31/04 is acceptable."

Applicants are glad that Examiner Tra finds that our declaration is acceptable.

2. "Claim 20 is ... duplicate of claim 7."

Applicants thank Examiner Tra for his careful reading of the Claims. This duplication is corrected in this amendment.

3. "Claims 5 and 18 are objected to "

Applicants appreciate Examiner Tra for his vigilant reading of the Claims. The deficiency he has indicated is being corrected by amendment of the independent Claims 1 and 14 by removal of the word "induced" in the Clauses related to electric dipoles.

4. "Claims 1 and 14 ... indefinite...."

Applicants believe that the indefiniteness of Claims 1 and 14 have been corrected by additional descriptive delimiters and elimination of the word "induced" in the Clauses related to electric dipoles. If this is not sufficient, applicants would appreciate Examiner Tra's suggestion(s) for the appropriate change(s).

5. Quotation of 35 U.S.C. 102 (b): Prior Publication.

6. "Claims 1-4, 7-9, 11-17 and 30 are rejected ... as being anticipated by Silverman (U.S. Pat. 6,122,094 A)."

We respectfully disagree with this for the reasons given below.

- a) "... ; at least two sets of opposing rung electrodes (item 120) which orthogonally criss-cross each other and are separated by dielectrics (Fig. 8); ..."

The words "rung" or "ladder" do not occur in Silverman. Nor does any concept related to such types of electrodes; or method or apparatus for group alignment. The electrodes such as shown in Fig. 8 in Silverman are a grid array with direct electrical connections at each intersection. In a given plane Silverman

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has no separation by a dielectric as taught in the instant invention. Silverman's dielectric separates the two grid planes that are his electrodes. We separate the two sets of rungs with dielectric in the same plane.

b). "With respect to claims 2, 9 and 15, Silverman ... at least three pairs of rung electrodes."

Silverman does not have rung electrodes. Item 120 of Fig. 8 is a grid electrode.

c) "With respect claims 3, 11, and 16 Silverman further discloses wherein array of micro-mirrors"

There are no micro-mirrors or mirrors of any kind in Silverman. The word "mirror" or any similar concept does not occur in Silverman. Central segment 12 might be mistaken for a mirror, but is not a mirror. As described in the first sentence of the Fig. 1 description, "with central segment 12 being made as either a light-transmissive or an opaque red, green, or blue [sheet]."

d) "With respect claims 4, 12, and 17 Silverman further discloses array of micro-mirrors disposed between a top grid electrode"

There are no micro-mirrors or mirrors of any kind in Silverman. The electrode is a "top grid electrode" rather than a rung electrode, as the examiner has stated.

e) "With respect claims 7, 13, and 20, Silverman further discloses wherein a group of the micro-mirrors are given the same alignment."

There are no micro-mirrors or mirrors of any kind in Silverman. Silverman only teaches individual alignment of his spheres. Whereas a group of his spheres can be individually aligned to all have the same alignment as a group, they nevertheless were each aligned individually. This is not the same as the "group alignment" of the instant invention where a group of spheres are all aligned together collectively as a group to reduce the voltage requirement. The

reduction of voltage in our invention also reduces the power requirement by reducing power losses such as due to field emission and dielectric loss. The reduced voltage of the instant invention furthermore lessens the probability of voltage breakdown with destructive arcing. There is no reduction of voltage or voltage requirement in Silverman. The word "group" occurs only once in Silverman in the 3rd sentence before the description of Fig. 2

"Within a given layer, a group of one or more spheres can serve to provide a component color for color addition." This is not a group alignment as we teach.

7. "Claims 6 and 19 would be allowable"

Applicants thank Examiner Tra for indicating that Claims 6 and 19 would be allowable.

8. "The prior art made of record and not relied upon"

a) "Rabinowitz et al ... fails to teach or suggest sets of opposing rung electrodes which orthogonally criss cross each other and separated by dielectrics."

Applicants thank Examiner Tra for observing this distinction. The electrodes in Silverman and Mikkelson are the same as in Rabinowitz et al, and also fail to teach or suggest sets of opposing rung electrodes which orthogonally criss cross each other and are separated by dielectrics.

b) "Crowley ... fails to teach or suggest ... sets of opposing rung electrodes which orthogonally criss cross each other and separated by dielectrics."

Applicants thank Examiner Tra for observing this distinction.

c) "Mikkelson ... with teaching of rung electrodes."

The words "rung" or "ladder" do not occur in Mikkelson. Nor does any concept related to such types of electrodes; or method or apparatus for group alignment. The word "group" or any similar concept to group alignment does not occur in Mikkelson.

Claims 1, 6, 14, and 20 have been amended in accord with Examiner Tra's recommendations.

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